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Virtual Schools

**The Vital Need for Virtual
Schools in Nebraska**

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Executive Summary

Today, more than 1 million students nationwide are enrolled in online learning courses. Experts predict that by 2014 roughly one out of every five public-school students (about 10 million) will be enrolled in online courses of some kind. To build on this momentum state education officials proposed creating the Nebraska Virtual School (NVS) and STEM Academy (science, technology, engineering, and math) in their Round 1 and 2 applications for federal funding through the U.S. Department of Education's Race to the Top Program, which is part of the federal government's American Recovery and Reinvestment Act. Reviewers were impressed by the promise of the NVS STEM Academy proposal, but it could overcome the numerous shortcomings in the state's applications. Nebraska ranked a dismal 39 out of 41 state applicants in Round 1 of Race to the Top, and it ranked near the bottom at 31 out of 36 state applicants in Round 2.

Race to the Top reviewers downgraded Nebraska's applications because they did not believe the state has a sufficiently robust reform climate. Specifically, reviewers were not convinced that existing public schooling options for Nebraska school children are truly innovative, or that they improve student performance. Reviewers repeatedly disparaged Nebraska's failure to allow public charter schools—a vibrant and growing segment of virtual education providers. One Race to the Top reviewer summed up by saying that “what is missing is a sense that the state's education leaders know why and are clear about the depth of the issues and how their reform efforts can be more than a quick fix.”

The recent assessments of other education experts suggest that Nebraska has the necessary infrastructure to create successful virtual schools, but it lacks the requisite vision for using them effectively. Nebraska earned a C from *Education Week* for its technological capacity in education but only a D+ for its use of that technology. Experts from the U.S. Chamber of Commerce, the Center for American Progress, and the American Enterprise Institute give the state a D for its technology use, adding that “Nebraska also needs to significantly improve how it evaluates its return on investments in technology.” In terms of the current schooling system's ability to innovate, they gave Nebraska an overall grade of F. Online learning consultants also observe that Nebraska would rank among the bottom 10

states in terms of online education programs available to all students.

It does not have to be this way. With a longstanding public-school open enrollment policy and a strong tradition of local control, Nebraska is better situated than many states to implement effective virtual schools policy. Moreover, given the state's commitment greater virtual education options, Nebraska students, parents, schools, and taxpayers could soon begin reaping its many benefits including improved student achievement and graduation rates at a lower cost than traditional classroom instruction.

Virtual schools have the potential to help mitigate some of the leading schooling challenges in Nebraska today, which include: 1) diminishing resources for public schools; 2) limited student access to high quality courses and teachers; and 3) poor student performance. Nebraska could proceed with plans to implement the proposed NVS STEM Academy without help from the federal government if it follows the most promising practices of virtual schools in other states and abroad, which include:

- Adopting a student-centered, results-based financing structure to support cost-effective, sustainable virtual education. Funding follows students to the virtual schools of their choice, and schools receive funding only after students successfully master their course material. Experts prefer this finance model because it provides a more rational, predictable funding stream than an “all or nothing” approach, particularly in tough budget times.
- Implementing expansive enrollment policies that do not cap the number or type of students. Successful virtual schools give enrollment priority to students who need expanded access to courses and teachers, such as students in rural schools, in low achieving schools, and low-wealth schools; as well as students from military families, the foster-care system, and non-public school students, including home education students.
- Eliminating rigid teacher certification mandates and enacting full teacher licensure reciprocity. Talented individuals with advanced degrees or industry-specific skills should not be barred from teaching. Likewise, students should not be denied access to top quality educators simply because their licenses are from out of state.
- Removing class-size mandates, compulsory education

codes, and seat-time requirements to maximize the full potential of virtual education. Inflexible mandates in these areas are symptomatic of a system-centered approach to schooling that puts virtual schools at a disadvantage because they are structured around students' mastery of subject material. Since virtual schools also do not have the geographical or time constraints of bricks-and-mortar schools, such mandates are unnecessary obstacles to student-centered, individualized learning.

- Protecting parents' rights as educators by exempting them and other persons providing educational services in students' homes from state licensing requirements. A high level of parental involvement is needed for virtual education to succeed because parents oversee course assignments, check home work, and supervise their children's progress. Some national teachers union leaders consider these activities "an excess of parent involvement," and at least one state teachers union affiliate sued—unsuccessfully—to limit parents' roles as educators.

With a longstanding public-school open enrollment policy and a strong tradition of local control, Nebraska is better situated than many states to implement effective virtual schools policy. Moreover, given the state's commitment greater virtual education options, Nebraska students, parents, schools, and taxpayers could soon begin reaping its many benefits by embracing promising practices used by the country's and the world's most successful virtual schools.

The Prospects for Virtual Education in Nebraska

As of 2009, 45 states and the District of Columbia provide students with online education opportunities, including full-time and supplemental online instruction.¹ The terminology guide in Appendix 1 helps clarify the varying, and often interchangeable, terminology frequently used when describing online courses and virtual education. With so many course offerings and programs, it is important to be clear on what, exactly, virtual schools are. Gregg Vanourek, former vice president at the Thomas B. Fordham Foundation, provides a helpful conceptual model:

The way to think about a virtual school ... is simply to think of a regular school and remove the building; swap

in a computer instead and the Internet connection becomes the "bus" transporting students to school. As with other schools, most virtual schools have an office, administrators, teachers, professional development, curriculum, attendance, grades, report cards, parent conferences, special education services, field trips, school events, state testing, school board meetings and even disgruntled parents. However, there are important differences between schools comprised of electrons and those fashioned of bricks: more individualized and self-paced instruction; greater dependence on technology; complicated logistical issues due to the dispersion of students; different kinds of socialization (some face-to-face, some virtual); no snow days; and more. One of the key differences relates to time and learning. In a traditional classroom, time is fixed and learning is variable (i.e., classes are held for a set period of time each day and when the bell rings the amount of actual learning that has occurred will vary, sometimes dramatically, by student). In a virtual environment, learning is fixed and time is variable (i.e., the lesson continues until the student achieves mastery).²

There have been encouraging developments in recent years in online course offerings and education in Nebraska.³ The state also has a strong tradition of parent-controlled education, which is not surprising since it is home to the landmark 1923 Supreme Court ruling in *Meyer vs. State of Nebraska* affirming the right of parents "to control the education of their own." Moreover, by law Nebraska parents "have the primary responsibility of ensuring that their children receive the best education possible." In keeping with its longstanding tradition, Nebraska became one of the first states to enact a public-school open enrollment policy in 1989.

Nebraska is now attempting to bridge its 20th Century tradition of local control with 21st Century technological advances through its proposed Nebraska Virtual School (NVS) and STEM Academy (science, technology, engineering, and math). Yet the recent failure to secure funding through the U.S. Department of Education's Race to the Top Program, which is part of the federal government's American Recovery and Reinvestment Act, underscores that the prevailing system-centered culture within Nebraska's public education establishment is at odds with the student-centered culture necessary to enact strong virtual education policy.⁴

The NVS and STEM Academy proposal was detailed in the state's Phase 1 and Phase 2 federal Race to the Top applications.⁵ Partnering with local school districts, the proposed NVS and STEM Academy are intended to strengthen science, technology, engineering, and math courses offered by public schools to students in grades seven through 12.⁶ They would be under the governance of the University of Nebraska-Lincoln Independent Study High School (ISHS), started in 1929. The ISHS operates under the state education department's dual-credit rules and regulations and offers supplemental online courses through its correspondence course program, which consists of about 100 offerings. The ISHS enrolls more than 3,000 students at any given time and graduates 250 students annually.⁷

In addition to this promising governance structure, the proposed NVS and STEM Academy would benefit from Nebraska's expansive technological infrastructure. In the mid-1990s, school districts' fiber transport and synchronous video technology were constructed and expanded with State Lottery funding, and those funds currently help school districts update infrastructure according to a statewide standard. The Nebraska Department of Education explains, "These upgrades assist school districts to leverage a robust statewide education network, lower cost high speed bandwidth and synchronous video technology to provide blended models for distance learning."⁸

Reviewers of Nebraska's Race to the Top applications were impressed by the promise of the proposed NVS and STEM Academy, but not even such promise could overcome the numerous shortcomings in the state's applications. In the first round of the federal Race to the Top competitive grant competition, Nebraska ranked a dismal 39 out of 41 state applicants.⁹ In the second round Nebraska once again ranked near the bottom at 31 out of 36 state applicants.¹⁰ Remarkable on Nebraska's ability to enact a coherent and comprehensive reform agenda, one reviewer concluded that "what is missing is a sense that the state's education leaders know why and are clear about the depth of the issues and how their reform efforts can be more than a quick fix."¹¹ Another reviewer concluded that Nebraska's overall reform plan, including the proposed NVS and STEM Academy, "is less credible given the current status, and capacity of the state ... State success is extremely uncertain, risky, and speculative. Given the current state

policy base, there is no natural, future progression of state policy to implement the plan."¹²

Especially striking was the gulf between what constitutes autonomous, innovative public schools according to state education officials on the one hand, and the reviewers of Nebraska's federal Race to the Top applications on the other. State education officials demurred about the state's refusal to allow public charter schools, stating, "Nebraska statutes are silent with regard to charter schools. The statutes neither expressly authorize, nor expressly delimit charter schools. Due to the rural and small school nature of the vast majority of Nebraska school districts, charter schools are not an applicable model of public education in most areas of the state."¹³

It is interesting to note that that nationwide charter schools are serving students in a variety of geographical areas. Slightly more than half of all charter schools are located in cities (54.8 percent). Nearly one quarter is located rural/remote areas (23.7 percent); while the remainder is located in suburbs (21.5 percent). The median charter school size is also 210 students.¹⁴ Those national characteristics indicate public charter schools would indeed be an "applicable model" for a state like Nebraska. Public charter schools are founded by parents and educators and are managed locally, which helps them better reflect their local communities compared to more distant, centralized, and bureaucratic school-district governance structures.

Regardless, Race to the Top reviewers were not persuaded by Nebraska education officials' claims about charter schools' applicability—especially since virtual charter schools are an important and growing sector of full-time virtual education, as discussed later in this study.

The Race to the Top reviewers penalized Nebraska lack of public charter schools, and they were also not convinced that existing public schooling options for Nebraska school children, including the enrollment option program, specialized intra-district schools, and the new Douglas-Sarpy County Learning Community, were truly innovative.¹⁵ "[T]he descriptions of the schools make clear that they do not have the kind of flexibility and increased autonomy necessary to be considered 'innovative autonomous public schools'," as one reviewer put it.¹⁶ According to another reviewer, with regard to Nebraska's available public school options, "it is not clear whether they have resulted in material reforms that are manifested in

improved student outcomes.”¹⁷ Such comments add to growing criticism of Nebraska’s overall education reform climate.

The state ranks poorly on various measures of educational and technological innovation. Nebraska would rank among the bottom 10 states in terms of online education programs available to all students as of 2009.¹⁸ In November 2009, experts from the U.S. Chamber of Commerce, the Center for American Progress, and the American Enterprise Institute released *Leaders and Laggards: A State-by-State Report Card on Educational Innovation*.¹⁹ Nebraska was one of only three states to receive an overall education innovation grade of F, ranking second worst overall.²⁰ Nebraska earned Ds for teacher hiring and evaluation; data systems; and technology, all key indicators of a schooling system’s ability to innovate. Finally, the state earned solid Fs for its efforts to improve students’ college and career readiness as well as its school management, which are critical indicators of a schooling system’s ability to perform, much less innovate. “Nebraska does a dismal job managing its schools in a way that encourages thoughtful innovation ... and 91 percent of teachers report that routine duties and paperwork interfere with teaching,” according to *Leaders and Laggards* authors, who added, “In addition, the state does not ... have a charter school law.”²¹

In terms of technology use, the *Leaders and Laggards* report concluded, “Nebraska receives a disappointing grade [of D] in this category ... Nebraska also needs to significantly improve how it evaluates its return on investments in technology.”²² Likewise, according to *Education Week’s* annual *Technology Counts* report, Nebraska earned a ‘C’ for its capacity to use technology in education. Yet the state scored just ahead of the District of Columbia for the worst use of technology with a grade of D+.²³ Taken together the overall assessment of education experts suggests that Nebraska has the necessary tools for successful virtual schools, but it lacks the requisite vision for using them effectively.

As the following section makes clear, virtual education enrollment is proliferating, while Nebraska struggles with the basic elements of optimal implementation of virtual schools. It does not have to be this way. Subsequent sections highlight the leading education challenges Nebraska faces, and virtual schooling practices from other states it could adopt to help overcome them.

A National Overview of Virtual Schools

Public virtual education programs may come in the form of supplemental programs or full-time schools. The distinction between supplemental and full-time programs, however, is not absolute because some full-time virtual schools also offer supplemental courses; while some supplemental programs are beginning to offer full-time programs.²⁴ Experts predict that blended virtual education, models that offer part online and part traditional face-to-face instruction, will likely have greater potential in K-12 schools than the fully online model.²⁵ According to Florida Virtual School founder and president Julie Young, “Within five years, there will be lots of blended models such as students going to school two days a week, and working at home three days a week. Another blended model ... is where a student takes five [face-to-face] courses at school and two virtual courses ...”²⁶ Based on evidence from U.S. higher education, as well as other countries such as Australia and Singapore, the North American Council for Online Learning also concludes that the “blended approach combines the best elements of online and face-to-face learning. It is likely to emerge as the predominant model of the future.”²⁷ With that in mind, two leading types of virtual schools, state virtual schools and public charter virtual schools, are discussed below.

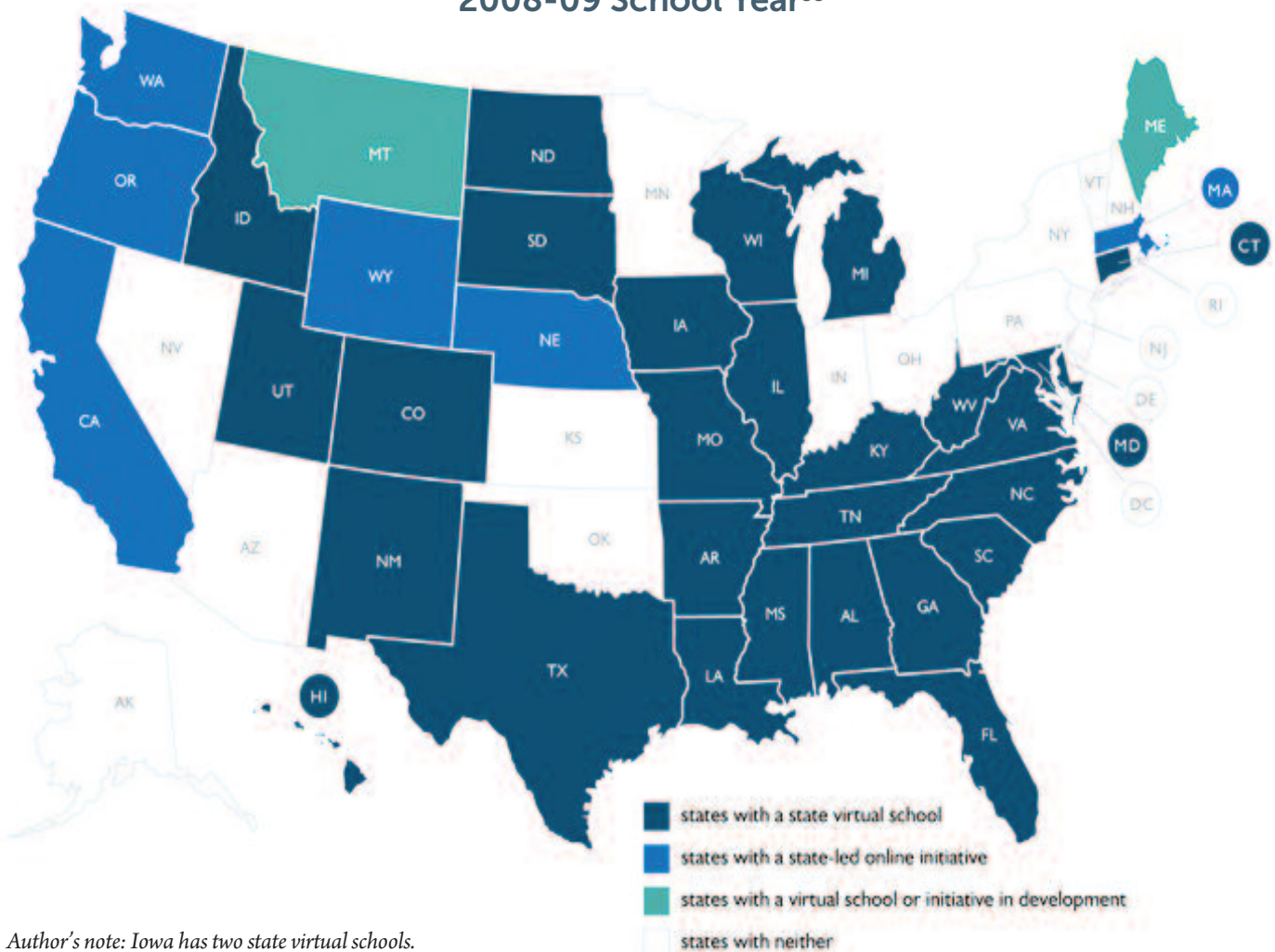
State Virtual Schools and State-led Online Initiatives. State virtual schools provide students in the middle and high school grades online learning opportunities, mostly supplemental, but not diplomas. They are usually created by legislation, a state-level agency, or a governor’s office. Typically state virtual schools are administered by a state education agency. Notable exceptions include Colorado’s state virtual school, Colorado Online Learning (COL), which is an independent non-profit organization. The Michigan Virtual School (MVS) is another exception because it is a division of a 501(c)(3) nonprofit organization, the Michigan Virtual University. Idaho’s virtual school, the Idaho Digital Learning Academy, is a distinct government entity that by law exists apart from the state education agency.²⁸ Most state virtual schools are funded by state appropriations or grants. Other funding sources for state virtual schools include the federal government, private foundation grants, and course fees.²⁹ The Florida Virtual School has a singular funding system, described in greater detail later in this study, in which students’ full-time

equivalent public education funding follows them so they can enroll in any course they choose; however, the school does not receive the funding until students have successfully completed their courses.³⁰ Unlike most state virtual schools, which serve middle and high school students with supplemental services, two state virtual schools offer full-time online education options, mostly to students in the elementary grades. One such school is Missouri's state virtual school, the Missouri Virtual Instruction Program (MoVIP). The Florida Virtual School partners with an education management company, Connections Academy, to provide full-time instruction through its K-5 programs.³¹

Just 16 states established virtual schools as of the 2002-03 school year.³² As of the 2008-09 school year, 27 states have

established them.³³ Appendix 2 profiles each of those schools. State virtual schools provided roughly 320,000 course enrollments (one student taking one semester-long course) in for-credit courses in school year 2008-09. The Florida Virtual School is by far the largest state virtual school, with more than 150,000 course enrollments in the 2008-09 school year. Six additional states, including Nebraska, offer state-led online learning initiatives. State-led online initiatives differ from state virtual schools because they provide online tools and resources for schools statewide, but they do not have a centralized student enrollment or registration system for students in online courses. State-led online learning initiatives are also funded mostly by separate legislative appropriations.³⁴

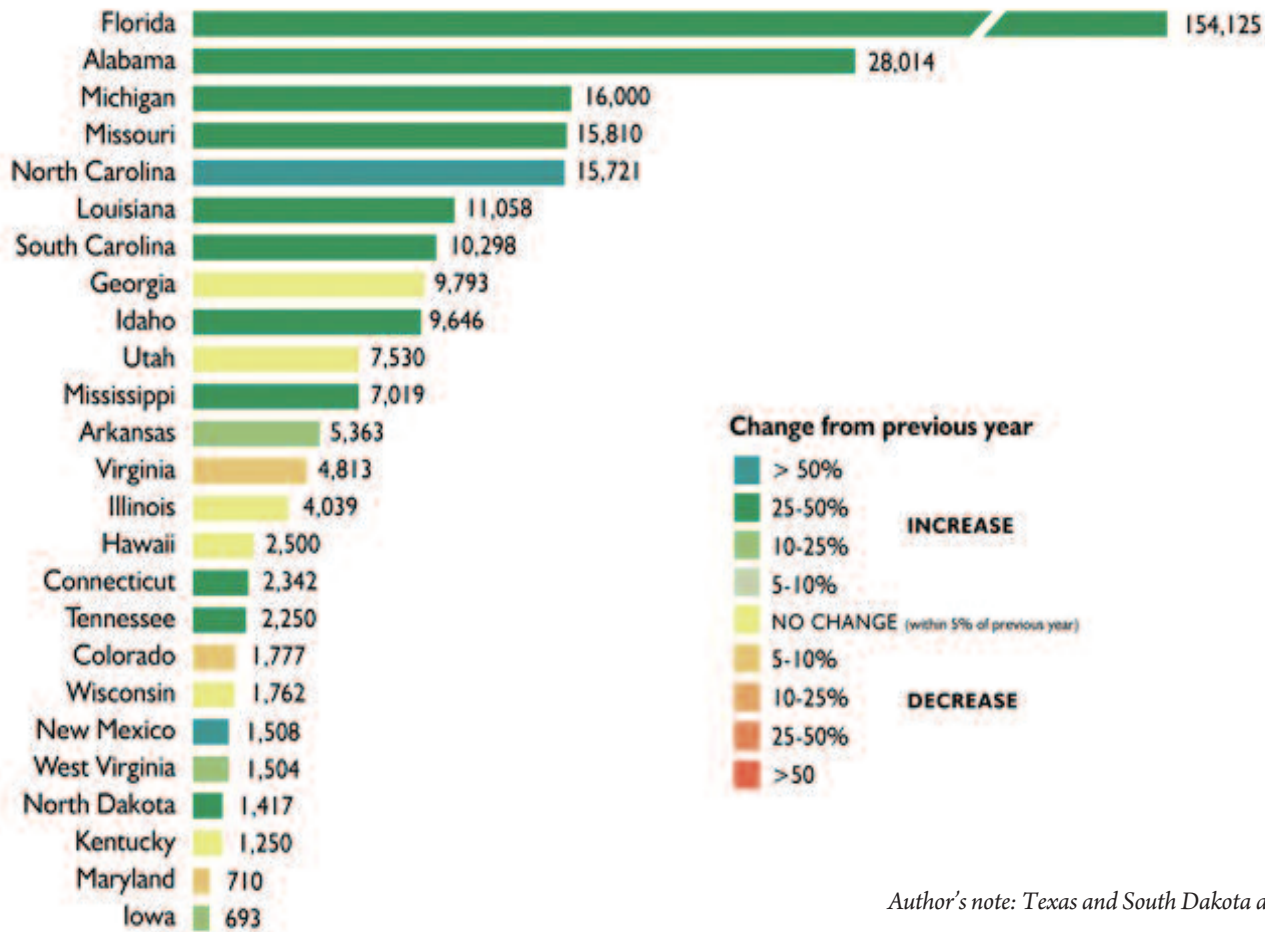
Figure 1. States with State Virtual Schools and State-led Initiatives, 2008-09 School Year³⁵



Author's note: Iowa has two state virtual schools.

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Figure 2. Number and Annual Change of Course Enrollments in State Virtual Schools, 2008-09 School Year³⁶



Author's note: Texas and South Dakota are not shown.

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Experts note that there is a strong connection between the growth of virtual learning and state policies. States with the most online learning opportunities allow students to choose their courses and schools, and funding follows them. As online learning consultant and researcher John Watson explains,

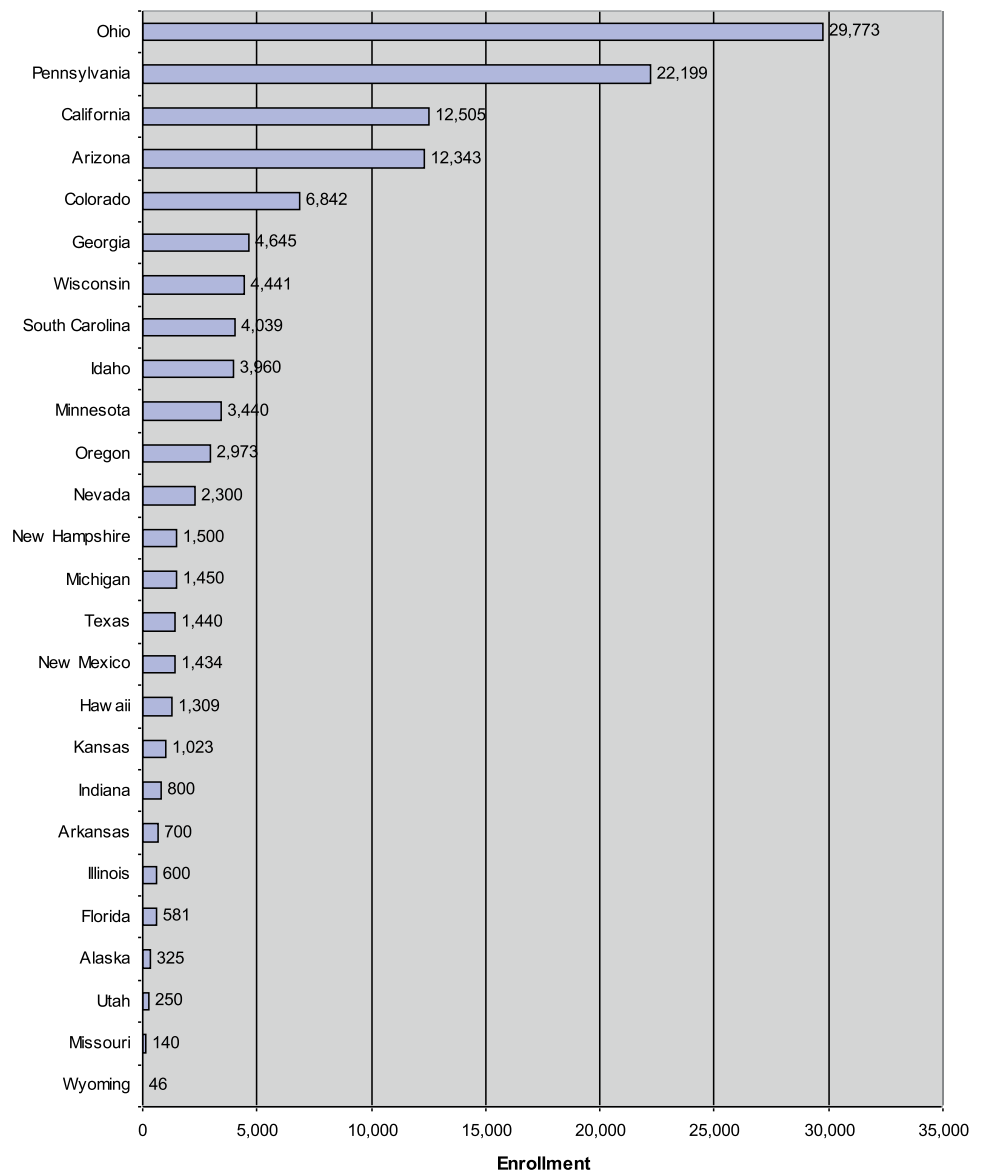
In most states there is a correlation between the growth rate of the state virtual school and the course fee that districts pay for the online course; state virtual schools with low (or no) course fees have much higher growth rates than state virtual schools with relatively high course fees paid by districts. The flip side is that the single largest factor limiting size of individual programs that are not growing is funding. This is particularly true for state virtual schools, most of which are funded by non-sustainable sources such as state appropriations or grants (compared to education funding formulas, which

are more sustainable because they are tied to public education dollars). For example, Colorado Online Learning and the Wisconsin Virtual School are among the state-led programs that have not grown in the last several years because their funding has remained at a stable level or been cut.³⁷

These and other optimal state virtual school policies are discussed in greater detail later in this study. The following section discusses virtual charter schooling, an important and growing virtual education sector on its own. While Nebraska has yet to embrace charter schools, the state virtual school profiles in Appendix 2 make clear that they offer vibrant partnership opportunities for many state virtual schools, which promotes more extensive, high-quality and cost-effective virtual learning opportunities.

Virtual Charter Schools. Today there are 5,039 public charter schools enrolling more than 1.5 million students in

Figure 3. Virtual Charter School Enrollment by State, 2010



Source: Author's figures based on data from the Center for Education Reform.

39 states and the District of Columbia.³⁸ As of the 2008-09 school year, charter schools represented nearly 5 percent of all public schools nationwide.³⁹ Charter schools are public schools founded by teachers, parents, or community organizations that operate under a written contract with a state, school district, or other entity. As public schools, charter schools are open to all students, they cannot charge tuition, they have no religious affiliation, and they abide by the same state and federal testing, financial, anti-discrimination, health, and safety regulations as traditional, district-run public schools.

Unlike traditional public schools, however, charter schools operate with more autonomy and flexibility. Freed from district control, charter schools have more freedom to innovate, which has given rise to a wide variety of schools, including back-to-basics, vocational, college preparatory, and Montessori.⁴⁰ This structure also fosters better partnerships among parents, teachers, and students to create an environment in which parents can be more involved, teachers have the freedom to innovate, and students are provided the structure and individualized attention they need to learn. In exchange for more autonomy, charter schools are held strictly accountable for meeting the terms of their performance contracts, which detail each charter school's mission, program, goals, students served, financial plan, and assessment methods. The duration of charter schools' contracts varies from state to state, but contracts typically range from three to five years. Chartering entities can include statewide charter school authorizing boards, school districts, non-profit organizations, private education companies, as well as colleges and universities. At the end of the contract, the chartering agency determines whether to renew or end a

school's contract based on academic results and fiscal management, as well as any other stipulated terms.⁴¹

Given the diverse and innovative nature of charter schools generally, it is not surprising they would embrace virtual learning.⁴² Virtual charter schools are a small but growing segment of online education providers at around 9 percent.⁴³ As of June 2010, there are 219 virtual charter schools enrolling more than 121,000 students in 26 states.⁴⁴ Those figures represent an increase from 173 virtual charter schools enrolling 92,235 students in 2007.⁴⁵

Projected Growth of Virtual Education

As the figures in the previous section show, virtual education enrollment growth is dramatic.⁴⁶ More than 2 million of the country's 50 million public-school students are currently attending a virtual school for all their classes or taking at least one course using the internet.⁴⁷ That figure is astonishing considering elementary and secondary online education programs began emerging with the Florida Virtual School and the Kentucky Virtual School in 1996. Online learning enrollments ranged between 40,000 and 50,000 students by 2000, jumping to 500,000 students by 2005. Online learning enrollment then doubled as of 2007, with more than 1 million students.⁴⁸ Online learning's 30 percent annual enrollment growth is unprecedented, and experts believe roughly one out of every five public-school students, about 10 million, will be enrolled in online courses of some kind by 2014.⁴⁹

The proliferation of online courses and virtual education options is occurring amidst nationwide public-education reform efforts, including the U.S. Department of Education's Race to the Top Program.⁵⁰ In a recent address to the Association of American Publishers, U.S. Education Secretary Arne Duncan emphasized the central role technology must play in transforming the American schooling system to increase the number of college graduates and close achievement gaps:

We believe that now is the time to truly incorporate technology into the core practices and strategies of our programs and schools. ... With the first decade of the 21st century now history, we've committed to securing the vitality of our nation by transforming the way we teach our students. We aim to build a public education system that helps all students set goals, stay in school, earn a high school diploma, and secure college and career success. ... The urgency has never been greater. Our children and our future are at risk, so let us together do the difficult but necessary things our schools demand. We have a moral and economic imperative that requires us to act.⁵¹

Those goals are also expressed in the U.S. Department of Education Office of Educational Technology's National Educational Technology Plan (NETP) released in March 2010.⁵² Secretary Duncan's 2010 NETP calls for "revolutionary transformation rather than evolutionary

tinkering," and urges "innovation, prompt implementation, regular evaluation, and continuous improvement," along with timely scaling of successful projects and coherent, strategic regulations.⁵³

Virtual education, of course, requires the proper technological infrastructure. According to the U.S. Department of Education, every public school in the country has at least one instructional computer with Internet access, and the ratio of students to instructional computers with Internet access is three to one, down from 12 to one in 1998.⁵⁴ Virtually every public school (97 percent) has one or more instructional computers in its classrooms; while more than half of all public schools (58 percent) have laptops on carts.⁵⁵ Public schools are also using their district networks or the Internet to provide standardized test results to teachers so they can individualize instruction (87 percent), data to inform instructional planning (85 percent), online student assessments (72 percent), and digital content that is described as high quality (65 percent). More than two-thirds of public schools (67 percent) report their teachers helped integrate technology into instruction.⁵⁶ As noted previously, Nebraska has such infrastructure in place, as well as a funding system to support necessary upgrades.

Experts caution, however, that simply putting more technology into classrooms will not transform education. "[T]axpayers, philanthropies, and corporations have spent more than \$60 billion to equip schools with computers in just the last two decades. And yet the machines have made hardly any impact," conclude Harvard Business School professor Clayton M. Christensen and Michael B. Horn, executive director of education at Innosight Institute, co-authors of *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*.⁵⁷ Larry Cuban, professor emeritus of education at Stanford University and author of *Oversold and Underused: Computers in the Classroom*, explains why:

Technology is linked to progress in the American mind and has a rich history in the culture. ... [but] no "revolutions" in technology use have occurred in U.S. schools and classrooms. ... It is a mistake to assume that if schools just adopt classroom technologies, academic achievement will improve, teaching will change dramatically, and students will be better prepared for the 21st-century workplace. ... the

bedrock of schooling remains an organizational structure introduced in the mid-19th century ... Advances in new technologies have hardly made a dent in this permanent structure. ... Until the age-graded school and funding mechanisms change, the use of new technologies for classroom instruction will remain peripheral.⁵⁸

Other experts stress that the transformative power of virtual education has been occurring from the bottom up for nearly two decades, not from the top down. Commenting on recent federal education reform efforts, *Reason* magazine senior editor Katherine Mangu-Ward characterized a 10-year, \$500 million plan proposed by U.S. Education Secretary Arne Duncan to develop post-secondary online courses as “arriving at the dance 15 years late and an awful lot more than a dollar short” because this is an “area of online education already thriving without federal assistance.”⁵⁹

Results from a March 2010 survey by the Pew Research Center’s Internet and American Life Project also suggest a general consensus that true education innovation will not come from federal government agencies or bureaucracies, which by their very nature are resistant to change.⁶⁰ In fact, the authors of *Disrupting Class* conclude that by 2019 half of high school classes will be online simply “because of the technological and economic advantages of computer-based learning, compared to the monolithic school model.”⁶¹ Given the highly individualized nature of this student-centric model, local and state policies can have tremendous impact on the quality and scope of virtual education. As the Alliance for Excellent Education sums up:

Simply put, the current process and infrastructure for educating students in this country cannot sustain itself any longer. In just about every other facet of society, at work and at home, technology has transformed the way Americans go about their lives. Yet schools have been slow to embrace the transformative power of technology. Although computers are pervasive in schools, they tend to be used more like electronic textbooks—high-tech tools in a nineteenth-century system. Students know this: young people talk all the time about “powering down” when they enter the classroom. A Commerce Department study finds that education is the least technology intensive among fifty-five industry groups. But the broad educational

applications of technology ... offer innumerable possibilities ... policy decisions today must embrace a dramatic transformation of teaching and learning. Technology can no longer be thought of simply as an “add-on” tool in education but rather an integral part of the total educational environment.⁶²

The following section details some of the greatest schooling challenges raised by Nebraska education officials, and how a properly designed virtual schooling policy could help overcome them. Several state virtual schools, including the top-ranked Florida Virtual School, as well as virtual schools in Race to the Top round 2 winning and finalist states, offer policy makers instructive guidance on optimal virtual education policy. Global examples also provide a more expansive view of the potential of virtual education to overcome today’s leading schooling challenges.

Recommendations for Implementing Optimal Virtual School Policy in Nebraska

Virtual schools challenge the prevailing school governance and financing structures because they can enroll students regardless of where they live, and class size is no barrier to self-paced, individualized instruction or access to high-quality teachers.⁶³ With a longstanding public-school open enrollment policy and a tradition of local control, Nebraska is better situated than many states to implement effective virtual schools. Moreover, given the state’s commitment greater virtual education options, Nebraska students, parents, schools, and taxpayers could soon begin reaping its many benefits.

Yet as policy makers know from the recent struggles surrounding the state’s Race to the Top applications, politicization is a leading barrier to school reform in general, and virtual education is no exception. John Chubb, chief development officer and senior executive vice president of Edison Learning, and Stanford University political scientist Terry Moe explain that “the advance of technology is also threatening to powerful education groups, and ... these people are represented by organizations—most prominently, the teachers unions—that are extraordinarily powerful in politics, and are even now taking action to prevent technology from transforming

American education.”⁶⁴

Josh Dunn, a professor at the University of Colorado, Colorado Springs, and Martha Derthick, professor emeritus at the University of Virginia, explain that opposition from teachers unions goes well beyond growth caps and funding disputes. “The student-teacher ratio for virtual schools is much higher than the ratio for ‘brick and mortar’ schools, so virtual schools threaten to reduce employment.” They add that many virtual-school teachers also work from home, which can “weaken the solidarity of the unionized workforce.”⁶⁵

For all the various education reform issues and controversies that intersect with virtual schools and technological innovation in education generally, one thing is clear: online education is not going away. John Watson and Butch Gemin of Evergreen Consulting Associates, an online-learning consulting and research firm in Evergreen, Colorado, sum up:

Online learning may ... be one of the truly transformative influences on all of education, because many online policy issues cannot be easily addressed without looking at education as a whole ... Ideally, the continuing evolution of high-quality but diverse online learning programs, together with development of thoughtful state policies, provides a laboratory to explore issues that benefit students in every learning environment. The many intricate policy details and questions can be confusing, and certainly challenging to understand and explain. In fact, even when you find something that works in one state, there is no guarantee it will work everywhere ... There is, however, a simple litmus test for evaluating online learning policy. Good policy answers two key questions affirmatively:

- Does the policy hold promise for increasing student educational opportunities?
- Does the policy hold promise for improving student educational outcomes?

If the answer to both questions is yes, the policy is likely to be beneficial.⁶⁶

With such expert advice in mind, virtual schools have the potential to help mitigate some of the leading schooling challenges in Nebraska today. State education officials identified several of these challenges, which they intended

the NVS and STEM Academy to address, in their federal Race to the Top funding applications. The sections that follow address those challenges, which are organized into three broad categories: 1) diminishing resources for public schools; 2) limited student access to high quality courses and teachers; and 3) poor student performance.⁶⁷ The sections below explore those challenges and offer policy recommendations based on the most promising practices of virtual schools in other states according to expert reviews, including those of Watson and Gemin, the International Association for K-12 Online Learning (iNACOL) review of top finalists’ Race to the Top Round 2 applications, as well as iNACOL’s survey of emerging global virtual education leaders.⁶⁸

Challenge #1: Diminishing Resources for Public Schools. Nebraska’s economy has experienced a ten-year decline, with one of the slowest rates of job growth in the Great Plains region. This decline has affected many districts.⁶⁹ The Alliance for Excellent Education notes that current economic conditions have “closed off the possibility of spending increases for education.”⁷⁰ This applies to Nebraska, which faces a projected fiscal year 2010 budget shortfall of \$221 million, representing 6.5 percent of the state’s fiscal year 2011 budget.⁷¹ Medium and longer-term projections also indicate that education funding in the states will not return to their former levels.⁷² Evidence suggests, however, that more efficiency—not simply more spending—is a primary factor in improved education.⁷³

Evidence of specific state-based online education programs suggests they can improve student achievement at a lower cost than traditional classroom instruction.⁷⁴ It is important to note, however, that while online education is cost-effective, it is not cheap.⁷⁵ Some research suggests the cost of providing a high-quality virtual education is roughly equivalent to educating the same students in a brick-and-mortar public school.⁷⁶ Effective financing of virtual education requires: 1) accurately identifying the costs of providing a quality education; 2) determining how dollars should flow to online schools; and 3) and making funding sustainable.⁷⁷

Virtual Education Costs. Actual costs of providing online education include expert teachers, curriculum

licensing and development, computers, course-delivery and data systems, special services, and physical materials. Virtual schools have significant technological costs such as hardware, and bandwidth. Teachers also travel for in-person training and technical support. Available research finds that a state virtual school needs \$4 million in start-up and operational funding to serve 5,000, one-semester enrollments.⁷⁸ Experts believe that the cost of serving full-time students in virtual schools ranges from \$7,200 to \$8,300 per student.⁷⁹ The operating costs at Kansas virtual schools were between \$300 and \$5,000 lower than the per-student costs at traditional public schools.⁸⁰ After reviewing the available audits and cost estimates comparing virtual and traditional public schools, researchers at Indiana University concluded that the “operating costs of virtual schools fluctuate from program to program, but are generally lower or equal to the costs of traditional education.”⁸¹

Dollars Should Follow Students to Schools. Experts warn that state legislatures may be tempted finance virtual schools’ start-up and initial operating costs with line-item appropriations, but these programs will only meet growing demand if they are integrated into states’ regular education finance system, which should be student-centered.⁸² States will increasingly need finance structures that can support rapidly evolving education systems. Experts note one emerging virtual education trend is as more public schools franchise or form their own online programs, virtual schools will probably shift from being direct online course providers to a supporting role providing design expertise, teacher training and development, data services, and other services to local schools.⁸³ The capacity to finance students, rather than systems, is therefore an important public-policy concern for long-term, high quality virtual schools.

Sustainable Funding is Student-Centered and Results-Based. Finally, sustainable funding is integral to strong virtual education policy.⁸⁴ In tough budget times, states eliminate funding for their virtual schools. One issue is that virtual schools are treated as public-school add-ons, instead of as integral parts of a state’s education system. Another problem, exacerbated during times of budget shortfalls, is that traditional district public schools are pitted against virtual schools for funding. The latest advance in virtual school financing is combining student-centered financing with results-based financing.

Watson and Gemin, explain, “States that fund based on successful completion find that having defined benchmarks or milestones for incremental completion (for example, 50 percent and 100 percent complete) provides a more rational and predictable approach than ‘all or nothing.’”⁸⁵ Student-centered, results-based financing is a cornerstone of the Florida Virtual School, which was a centerpiece of Florida’s winning Race to the Top Round 2 application.⁸⁶ “The funding includes an innovative twist in that it is based on student performance or successful completion of virtual programs or courses rather than seat time. Florida’s virtual education options are not merely reforming education; they are transforming education,” as state education officials explained in their successful Phase 2 Race to the Top application.⁸⁷

A results- or outputs-based financing structure represents a profound but necessary public policy shift if virtual schools are to succeed. This finance structure will require policy makers to revise “seat-time” mandates, organizing students by age-determined groupings, and mandatory attendance laws governed by school-day and school-year regulations.⁸⁸ As Florida Virtual School CEO Julie Young explains:

In our early days of development, we were highly influenced by a 1992 SCANS report [Secretary’s Commission on Achieving Necessary Skills]. One quote we’ve returned to over and over again says, ‘In our current system, time is the constant and achievement the variable. We have it backwards. Achievement should be the constant and time the variable.’ As we continue to evolve, we keep this central focus on achievement as our guidepost for development.⁸⁹

Holly Sagues, the chief strategist and policy officer for the Florida Virtual School, explained that before 2003 when legislation was passed changing the funding model from an appropriations-based system to a per-pupil, performance-based model, “We would figure out how many students we would be able to serve ... It really does hurt kids, because we had a waiting list a mile long, but we weren’t funded appropriately. There was no way for us to grow our enrollment base with that model.”⁹⁰ Once the funding model was changed, enrollment at the Florida Virtual School more than doubled, from 14,000 to 31,000 in one school year.⁹¹

Virtual Schools Can Achieve Greater Efficiency.

Virtual schools offer many areas for cost savings. Virtual schools, including virtual charter schools, have no taxing authority, which encourages sticking to budgets because they cannot make up for any shortfalls by raising property taxes as traditional public school districts do. For example, the Arkansas Virtual Academy serves grades K-8 across the state and operates as its own school district. It is funded through the same formula as a physical school, \$5,905 per student, but it does not receive money from property taxes.⁹²

Virtual schools also do not have the facilities, cafeteria, and transportation costs traditional public-school districts do. In fact, developing countries are turning to virtual education because they simply cannot afford the high construction and operations costs of traditional schools. In Singapore, for example, all secondary schools use online learning; and all teachers are trained to teach online. Each year it holds E-Learning Week when bricks-and-mortar schools are closed down to ensure virtual schooling is used to provide continuity in learning and enhance disaster preparedness. In fact, Singapore is also working to train its teachers to use Second Life (virtual worlds) for educating students.⁹³

In addition to construction and maintenance savings, states can realize savings through greater efficiency. Open education resources (OER) are helping make online courses more cost efficient because online courses can be reused by multiple teachers.⁹⁴ Virtual education is also cost-effective because it offers students courses that meet their needs but that their school districts cannot afford to provide. It also does not require new construction to do so.⁹⁵ Importantly for states like Nebraska with large rural communities, online education makes it affordable for schools to hire high-quality, high-demand and specialized teachers who would otherwise not have enough students to justify their salaries, as long as brick-and-mortar class size mandates do not interfere.⁹⁶ There are several other cost-savings benefits from virtual schools as well.

States capture significant savings in so far as student who would otherwise drop out, remain in school and go on to graduate from high school. Research from the Alliance for Excellent Education indicates that the annual cost to the Omaha area alone of the 3,240 students who dropped out

of the Class of 2008 is \$34 million in lost wages and foregone tax revenue.⁹⁷ Better college preparation can translate into higher degree completion rates and associated lifetime earnings, which mean higher tax revenues. Accelerating advanced students' course completion can also save additional years' worth of state secondary and post-secondary education expenditures.⁹⁸

Spreading similar costs across multiple learning sites also promotes cost efficiency, and especially important consideration for states like Nebraska where a critical mass of students is typically not be reached at rural or small schools to justify the expense of offering specialized courses. With its expansive open-enrollment policy, Nebraska is better situated than many states to maximize virtual schools. As the Information Technology and Innovation Foundation explains,

IT [information technology] improves productivity in several ways. It lets companies automate tasks, freeing workers up to create value in other tasks. IT also has widespread complementary effects, including allowing companies to fundamentally re-engineer processes and lets companies more efficiently use capital and natural resources. IT also has a number of indirect effects, which in turn spur higher productivity, including enabling larger markets and better organizational decision-making.⁹⁹

With virtual school class size and traditional roles of teachers and administrators no longer apply, so new and more efficient operational configurations can be adopted. As the Alliance for Excellent Education concludes, "Whatever the configuration, innovative technologies offer the potential to improve productivity in schools just as it has in other sectors."¹⁰⁰ With a results-oriented focus and financing structure, virtual schools have strong incentives to promote attendance, curb truancy, and engage students better.¹⁰¹ Research has shown that compared to traditional curricular and instructional approaches available to teachers, online teachers have more flexibility in engaging students, their colleagues, and presenting content in innovative ways. Emerging, interactive technologies help students develop in-depth, higher-level thinking and extract significant meaning from the content.¹⁰²

Students, accustomed to any number of technologies in their daily lives, want more online learning opportunities.

Nearly half of high school and middle-school students have researched or are interested in online classes, but just, just 10 percent have actually taken such classes at their schools.¹⁰³ Students and teachers also agree about the benefits on online learning. Nearly half of high-school students surveyed (47 percent), almost 40 percent of middle-school students (39 percent), and 25 percent of third through fifth-graders think that online courses would make school more interesting because students want to be in control of their learning.¹⁰⁴ Those students believe the format would make it easier for them to succeed—even when the content is more challenging—because it would be easier to review material and ask their teachers for help.¹⁰⁵

Challenge #2: Limited Access to High Quality Courses and Teachers.

Nebraska state education officials documented the many challenges the state faces when it comes to ensuring equal access of all students, regardless of income or address, to high-quality schools and teachers.¹⁰⁶ In spite of large geographical areas—some spanning the size of Connecticut—all but two Nebraska high schools are rural and/or small, according to the state's Race to the Top Round 2 application.¹⁰⁷ More than one-third of all Nebraska high schools are in rural or remote areas (75.4 percent), and those schools enroll more than half of the state's public elementary and secondary school students (54.8 percent).¹⁰⁸ The minority student population has also increased from 10 percent to 25 percent over the past 20 years; while at more than three-quarters of Nebraska schools (76 percent) at least one out of four students or more is eligible for the free or reduced price lunch program.¹⁰⁹ According to state education officials,

Nebraska has recently increased graduation requirements for all districts as a condition of accreditation. Increased graduation requirements, however, do not ensure comparable course offerings and options between the smallest rural district (K-12 enrollment of 93 students) and the larger urban districts ... the Nebraska Virtual School STEM Academy ... will enable access for even the smallest school to Advanced Placement (AP) courses and courses in Science, Technology, Engineering and Mathematics while providing support and capacity building for local instructors. In addition to preparing students to be college and career ready, the STEM Academy will help

keep students engaged and in school thus helping to improve graduation and college enrollment rates.¹¹⁰

Critical Need in Rural and Economically Disadvantaged Areas.

Ensuring all students—including those most at risk of dropping out—have access to academic and Advanced Placement (AP) courses in science, technology, engineering, and mathematics is critical for them to be competitive nationally and globally. National data indicate that high school students in rural areas are less likely to take AP science courses than students in cities and in suburban areas, 6.8 percent compared to versus 26.5 percent.¹¹¹ Given the predominantly rural and small nature of Nebraska's schools, combined with deteriorating economic conditions, student access to AP courses is drastically more constrained. For the past five years, the percentage of Nebraska students taking AP STEM classes has remained virtually stuck at a stunning 0.29 percent, even though research overwhelmingly shows that successful completion of such courses dramatically improves students' chances for success in college.¹¹²

Researchers from the Sloan Consortium noted that the importance of virtual education to rural and economically disadvantaged areas extends beyond improving access to AP courses:

Shortages of teachers in high-demand secondary school subject areas such as science, mathematics, and foreign languages, as well as modest property tax bases and the lowest per pupil expenditures compared to urban and suburban districts have forced rural school districts to use their financial resources as wisely and effectively as possible. Online learning provides these districts with a cost beneficial method of providing courses that otherwise would require hiring teachers, many of whom would be uncertified in their subject areas and who would not have enough students to justify their salaries. This would be true not only for electives and enrichment subjects but increasingly for required courses as well.¹¹³

A 2009 national survey by the Sloan Consortium found that school district officials were especially vocal about the need for virtual education in rural and economically disadvantaged areas. "Without this choice [online learning]," explained one rural school official, "there may have been 40 fewer high school graduates in our small

county last year.” Another school official underscores benefits of virtual education for high-poverty areas, noting, “Online courses provide needed options for our students in a high poverty area with limited resources. These services expand learning opportunities for our students and enable them [to enroll in] courses they may not be able to take in our school and to accelerate/enhance learning through AP courses.” Likewise another school district official explained, “My district is ... in dire need of certified teachers.” The official went on to emphasize how virtual education could help: “I believe that with the decreasing number of certified teachers available and the economically disadvantaged rural area that I live in ... this type of teaching and learning will definitely bridge the gap ... It will also allow our students the opportunity to be more competitive in education because they will be able to have more Honor, AP and College Preparatory courses.”¹¹⁴

Meeting the Needs of a Diverse Student Population.

Students want access to a greater variety of course offerings that are not available at their schools.¹¹⁵ According to researchers from Project Tomorrow, which has conducted national surveys on educational technology use over the past seven years, students “need learning tools and processes that are not tethered to time, place and geographic boundaries.” Project Tomorrow researchers also noted:

And [students] recognize from their own experiences growing up immersed in digital media that the best way to drive educational productivity is through the effective use of rich and relevant digital tools, content and resources. Technology is enabling, empowering and engaging these Free Agent Learners in ways that traditional learning paradigms are not, and thus it is, in fact, unintentionally exacerbating the relevancy crisis in American education.¹¹⁶

Online learning mitigates this crisis by expanding opportunities for students to access high quality courses and teachers.¹¹⁷ As experts from the North Central Regional Educational Laboratory explain, “The first impetus to the growth of K-12 distance education was an interest in expanding educational options and providing equal opportunities for all learners.”¹¹⁸ Virtual education is helping meet the needs of students in failing schools, those who need to make-up coursework, students who want to earn their GEDs, are in the juvenile corrections system,

need extra help, and those who want to take more advanced placement and college-level courses.¹¹⁹ The Southern Regional Education Board concludes that “state virtual schools are not about technology, but rather about using today’s technology to meet the tremendous academic needs of middle grades and high school students in ways have never before been available” (original emphasis).¹²⁰

Virtual schools are becoming increasingly popular with other non-traditional students as well. For home schooled students virtual schools offer opportunities to connect with other students and professional staff. The flexibility of virtual education also makes it a popular option among student athletes, actors, and high-mobility students such as children from military families. With well more than 15,000 military personnel, Nebraska has a high proportion of military families, whose education options are limited to areas where they are stationed.¹²¹ Such constraints have negative effects on children’s performance in school, which could be mitigated with expanded virtual schooling options.¹²²

The self-paced study of virtual education benefits struggling students as well as advanced students, who can work at their own pace without embarrassment, distractions, or delays. Parents also appreciate many aspects of a virtual learning environment for their children. These include improved safety, especially for students who are shy or are victimized and bullied at school, the absence of negative peer pressure, overcrowded or disruptive classrooms, and greater curricular offerings such as AP classes.¹²³

School district officials echo students’ and parents’ opinions on the importance of making online learning opportunities more available. They believe online learning would help them: 1) meet the needs of specific groups of students; 2) offer courses not otherwise available at the school; and 3) offer AP or college-level courses.¹²⁴ Again, it is important to note that virtual education benefits a wide range of students, not simply those who are excelling, based on feedback from the Sloan Consortium survey participants.

One school district official noted, “The students [taking online courses] vary from excelling students, students in and out of juvenile detention that do not succeed in a regular classroom, expecting parents, parents trying to

finish school after having had babies . . . , and students trying to graduate before their 21st birthday.” Another school official explained, “We are a secure care facility with accredited high school programs. Our students love the online and blended courses. They experience success here and develop a sense of hope of attending a post secondary school upon release.” According to another school official, “On-line offerings have made it possible for at-risk students to earn make-up credit for graduation purposes; advanced students can take courses that we do not offer.”¹²⁵

Hawaii, for example, has a virtual school that takes a comprehensive approach to meeting the needs of a diverse student population. Hawaii’s E-School partners with private virtual schools and public charter virtual schools, which provide culture-based curricula and serve high-need students. Such a comprehensive approach to virtual education helped Hawaii become a Race to the Top Round 2 winner.¹²⁶ While Utah was not a Race to the Top finalist, its state virtual school, the Electronic High School, provides supplemental courses and grants diplomas to students who are homeschooled exclusively, those who have dropped out of school and their class has graduated, and students with district referrals.¹²⁷

Enrollment Policies to Maximize Student Access to Virtual Education. Several state virtual schools provide strong policy models for expanding student access. Enrollment in the Florida Virtual School is not capped. Enrollment priority is also given to students who need expanded access to courses and teachers, such as students in inner-city or rural schools, home education students, and accelerated students. Moreover, school districts cannot limit or deny their students access to courses offered by the Florida Virtual School.¹²⁸ Students at the Florida Virtual School benefit from individualized and personalized instruction and flexible pacing. They can access lessons when they want, where they want, through multiple devices and means.¹²⁹ Other states also offer important policy guidance concerning virtual school enrollment policy.

Round 2 Race to the Top winners Georgia and North Carolina, along with Round 2 finalists Colorado and South Carolina, have impressive enrollment policies to help maximize student access at their state virtual schools. The Georgia Virtual School provides access to upper division courses, including STEM, for students in lowest achieving high schools. Enrollment is also not limited to public

school students. Public, private, and homeschool students may enroll in more than 100 courses offered by the Georgia Virtual School.¹³⁰ The North Carolina Virtual School prioritizes online learning opportunities to students attending schools in rural and low-wealth counties.¹³¹

Round 2 Race to the Top finalists have similarly expansive virtual school enrollment policies. Colorado repealed its prohibition on funding online students who were not public school students in the prior year. Consequently, more than 2,000 additional students were able to enroll in online programs during the 2008-09 school year.¹³² The South Carolina Virtual School Program is open to all students under age 21, including private school and homeschool students.¹³³ While Pennsylvania is considering implementing a state virtual high school for “small, rural and low wealth school districts,” this Race to the Top Round 2 finalist has 11 elementary and secondary virtual charter schools, primarily full-time, that served 22,205 students in grades K-12 during the 2008-09 school year. The state’s virtual schooling law makes clear that children of deployed active-duty military parents retain their resident status and the right to enroll in virtual charter schools.¹³⁴

While Missouri did not win or place in the Race to the Top grant competitions, its virtual school enrolls public, private, or homeschool students at no cost during the fall and spring semesters on a first-come, first-served basis.¹³⁵ Mississippi, which did not participate in either Race to the Top competition, opens its virtual school to private and homeschool students, as long as they get approval from their local public school for which they are zoned.¹³⁶ Texas limits enrollment in its virtual charter school to public-school students but exempts students in foster care and certain dependents of military personnel.¹³⁷ Such expansive enrollment policies are especially important for Nebraska.

Nebraska parents want more—and better—options for their children.¹³⁸ Four out of five Nebraska parents want other options besides their traditional public schools for their children. They are dissatisfied with the lack of accountability, overcrowding, and poor engagement with them by their children’s schools.¹³⁹ According to Chubb and Moe,

Curricula, teaching methods, and schedules can all be customized to meet the learning styles and life situations

of individual students; education can be freed from the geographic constraints of districts and brick-and-mortar buildings; coursework from the most remedial to the most advanced can be made available to everyone; students can have more interaction with teachers and one another; parents can readily be included in the education process; sophisticated data systems can measure and guide performance; and schools can be operated at lower cost with technology.¹⁴⁰

A growing number of international examples also underscore the importance of expansive enrollment policies to ensure student access to excellent teachers and rigorous courses. With 1.3 billion people, China has set a goal to provide 100 million new students in underserved, rural areas with a quality education using technology and a digitized, online curriculum. It is already training its master teachers to provide online instruction, and as of 2004 China had put its entire K-12 curriculum online. According to Chinese University of Hong Kong president Lawrence Lau, broadband is critical to overcoming poverty; and China has increased its Internet connections from 4 million in 1999 to 250 million in 2008. China and the United Kingdom even reached an e-learning exports agreement in 2007 worth \$58 billion to give Chinese K-12 students access to English educational opportunities.¹⁴¹

The European Union makes the International Baccalaureate (IB) Diploma Program available online to 125 countries. The IB program hires master teachers from 26 countries and trains them to teach online. “Gold standard” online IB courses are being developed to produce a world-class curriculum with an internationally-recognized high school diploma, which requires students be fluent in multiple languages. These students will interact with classmates from dozens of countries, learn from master teachers across Europe, and collaborate on an international scale.¹⁴² State policy makers should therefore consider developing their virtual schools with such global access in mind to ensure students statewide have access to courses throughout the world. Examples of state virtual school that offer such opportunities include the Florida Virtual School and the Michigan Virtual School.¹⁴³

Maximize Student Access to High Quality Teachers through Full Licensure Reciprocity. With less than 1 percent of students taking AP STEM classes, Nebraska is far below the national average. Nebraska is experiencing

teacher shortages in these subjects, particularly in the state’s most isolated and highest need schools. State education officials explain,

One teacher may serve as an entire academic department in a seventh-grade through twelfth-grade attendance center. Schools offer upper level courses every other year on a rotating basis—if at all. Because only one section of a course can be offered, honors or differentiated courses are often not available at either the middle or the high school levels.¹⁴⁴

Reviewers of the state’s Race to the Top Round 1 and Round 2 applications were critical of the inequitable distribution of effective teachers throughout Nebraska, and the resulting diminished access students have to academic courses. Plans to correct this state of affairs are “at least four years from implementation,” as one reviewer noted; while another reviewer concluded, “The state does not ... propose a reasonable solution.”¹⁴⁵ One reviewer even noted that “Nebraska’s problem is not only a teacher supply gap; it is a standards and rigor gap.”¹⁴⁶

Without a sufficient supply of qualified teachers, rural and remote school districts with smaller student populations simply cannot afford to hire the teachers they need. Experts from the Sloan Consortium explain, “Online learning provides these districts with a cost beneficial method of providing courses for students who otherwise would be taught by under-qualified teachers or would require the hiring of teachers who would not have enough students to justify their salaries.”¹⁴⁷

To promote student access to talented teachers state policy makers should ensure full teacher licensure reciprocity. Rigid teacher certification mandates often keep talented individuals with advanced degrees or industry-specific experience and skills out of public-school classrooms—even though organizations such as Teach for America receive more applications than available positions.¹⁴⁸ Most states’ licensing regulations deprive students of talented teachers beyond state lines because they do not recognize out-of-state teaching licenses. One of the leading benefits of virtual education is that students, especially those in rural or underserved areas, have access to highly qualified teachers in advanced subjects or specialized fields. Watson and Gemin note that

... very few states have made the next logical

observation that online teachers should not be restricted to teaching within state lines. While state content standards vary in some subjects, for many topics such as algebra there is simply not much variation by state. States could easily balance the supply of highly qualified teachers by creating reciprocity with other states—recognizing each other’s certification of qualified online teachers. The result would be increased access for students who otherwise might not be able to easily take a course in a subject such as physics, chemistry, or a foreign language—online or otherwise.¹⁴⁹

Currently, only Michigan, Nevada, North Carolina, and West Virginia allow full teacher reciprocity. Oklahoma is one of only a few states that recognize the out-of-state teaching licenses of those who teach online courses.¹⁵⁰ The remaining states effectively cap the supply of teachers by not allowing any teacher licensure reciprocity, or allowing some reciprocity with other requirements, including additional coursework.¹⁵¹ The more autonomy virtual schools have over their day-to-day operations, including staffing, the more likely they are to be able to hire talented teachers with out-of-state, or even out-of-country, licenses to ensure students have access to high quality teachers.

Cisco CEO John Chambers once quipped, “Education over the Internet is going to be so big it is going to make e-mail look like a rounding error.”¹⁵² With virtual education, teachers are paramount, and technology removes the socioeconomic and geographical barriers between students and the teachers they need to succeed—particularly in times of teacher shortages.¹⁵³ In fact, some developing countries, including India and China, are turning teacher shortages into export opportunities by making their teachers available through technology not only to underserved students at home, but to students around the globe in need of top quality teachers—especially in fields of critical shortages such as math and science.¹⁵⁴ “Online education is now an international export, and no longer a cottage industry,” explains Susan Patrick, president and chief executive officer of the International North American Council for Online Learning (iNACOL) and former director of the U.S. Department of Education’s Office of Educational Technology. “We need to take advantage of a new distribution model (global)—it is using the Internet to deliver high quality courses and instruction. We can reduce

inequity, level the playing field and accelerate learning and track student performance better, too,” according to Patrick.¹⁵⁵

This emerging global market means more opportunities for students as well as Nebraska teachers to educate students well beyond an assigned local public school. Nebraska teachers could reach eager students statewide, nationally, and internationally if they choose, commanding top salaries, more professional working environments, including collaboration with colleagues worldwide, truly enriching professional development opportunities, and greater options for earning advanced degrees as part of their compensation packages. Virtual education also offers teachers more chances to fulfill their humanitarian aspirations by providing impoverished and underserved children worldwide with the education they would otherwise not receive. These are important considerations state policy makers should keep in mind to address, reverse, and prevent teacher shortages.

Appeal of Virtual Schools Could Attract More Teachers of Top Talent. Virtual schools have strong potential to attract and retain more teachers of top talent. Fully 75 percent of teachers who have taught online courses agree they help empower students over their own learning.¹⁵⁶ Teachers who have taught online courses also report that online courses improved their effectiveness, had encouraged students to be more self-directed (67 percent), promoted collaboration among students (48 percent), and facilitated student-centered learning (47 percent).¹⁵⁷ With online education, teachers help all their students master skills instead of rushing them along to keep up with arbitrary time tables.

The North Carolina Virtual School is also taking an innovative approach to meeting the need for high quality teachers in poorly-performing schools. As state education officials explained in their winning Round 2 Race to the Top application, “In addition to supporting the expansion of virtual course offerings, [Race to the Top] funds also will be dedicated to developing blended courses ... to develop the talent of teachers already working in the lowest-performing schools by allowing them to work side-by-side – virtually – with more experienced teachers, while eliminating the geographic boundaries that might otherwise prevent these partnerships from being possible.”¹⁵⁸

Similarly, Louisiana's application made it a Round 2 Race to the Top finalist. Included in the state's application was a proposal to help expand AP and dual-enrollment STEM courses by using "the Louisiana Virtual School to train in-service teachers and to teach students in rural LEAs."¹⁵⁹

Kentucky was also a Race to the Top Round 2 finalist, and its application included plans to maximize teacher professional development through the Kentucky Virtual School.¹⁶⁰ The opportunity to mentor less experienced teachers and to learn from more experienced teachers holds great appeal for educators and highlights another benefit of virtual education.

Virtual education also empowers teachers to devote more of their time to instruction and spend less time on administration.¹⁶¹ They no longer need to live near the virtual school where they teach. Schedules are more fluid, allowing teachers to work from home. Virtual schools provide teachers with computers, Internet access, and training, and they are not expected to pay for classroom supplies as many traditional public-school teachers must do when budgets are tight. Teachers oversee and grade assignments, some even help develop lessons or courses, as well as monitor attendance and progress. They give feedback through phone conferences, e-mail, instant messaging, or Web conferencing, and sometimes they meet in person with their students. Virtual school teachers can customize their instruction by creating individualized learning plans for their students based on diagnostic assessments, standardized tests, feedback from parents, and students' personal interests.¹⁶²

Reform Class-Size and Compulsory Education Codes to Maximize Access to Teachers. Related to teacher licensing laws are statutory supervisory laws that limit how many students any given teacher may oversee.¹⁶³ In California, virtual charter schools can avoid class-size mandates if certain conditions are met; while Michigan provides a small number of waivers from seat-time requirements so students can take online courses full-time and their school can receive full funding.¹⁶⁴ States' compulsory education laws typically stipulate the number of hours or days of attendance required for students be counted as full-time for funding purposes. Rigid rules regarding "seat time" often put virtual schools at a disadvantage because they are structured around students' mastery of subject material. Each of these policies diminishes the reach and effectiveness of virtual schools.

State policy makers should ensure that rules that may make in the brick-and-mortar school world do not encroach into the virtual school world.

Protect Parents' Rights as Educators. Policy makers should not forget that parents are their children's first educators, and Nebraska has an especially strong tradition in this regard. Improving parental involvement is a common theme in public-schooling reform debates. Virtual schools have a great advantage in this regard because parents must oversee and supervise their children's education. Yet opponents have taken steps to in recent years to limit this kind of involvement. In 2004, the Wisconsin Education Association Council (WEAC) sued the state-run Wisconsin Virtual Academy, alleging in part that the extensive role parents play in their children's online education violated the state's teacher certification and licensing requirements.

Although the case was initially dismissed, an appeals court found in 2007 that the virtual school was violating the state's teacher licensing law. "According to this ruling, if I want to teach my daughter to tie her shoes, I'd need a license," said Bob Reber, whose daughter attends Wisconsin Virtual Academy. WEAC president Mary Bell disagreed. "The court did not say that parents cannot teach their children—it said parents cannot teach their children at taxpayers' expense."¹⁶⁵

Law makers responded in 2008 by exempting parents and other persons providing educational services in the students' homes from state licensing requirements.¹⁶⁶

Showdowns between teachers union leaders and parents could soon become commonplace in other states. Barbara Stein, manager of the 21st Century Initiatives at the National Education Association, the country's largest teachers union, recently stated that her organization has concerns about "an excess of parent involvement" in virtual education and "about deputizing whoever happens to be at the kitchen table as a teacher."¹⁶⁷ Policy makers should take care that parents' rights are protected to maximize the full potential of virtual education.

Challenge #3: Poor Student Performance. On average, only around one-third of Nebraska 4th and 8th graders score proficient in reading and math according to

the National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card. Alarming proportions of Nebraska students do not score college-ready on the American College Test (ACT) across student sub-groups. And, in spite of Nebraska's reported 90 percent high school graduation rate, one of out three of graduates do not enter college within one year, and less than half of all Nebraska college freshmen complete college degrees.¹⁶⁸ Reviewers of the state's Race to the Top applications noted Nebraska's record is mixed at best when it comes to improving student test scores, closing achievement gaps, and raising graduation rates.¹⁶⁹ One reviewer concluded that "the state fails to describe in sufficient detail how results on any of the measures of achievement tie back to specific policies or practices at the state, regional, LEA [local education agency, or school district] or school level."¹⁷⁰ Another reviewer noted that students' NAEP performance is flat and student achievement gaps are "relatively untouched and remain wide."¹⁷¹ Other reviewers questioned state education officials' reported graduation rate improvement of 4.3 percent, observing instead that Nebraska's graduation rate improved just 1 percent since 2003.¹⁷²

Virtual Education Improves Student Achievement and Graduation Rates. With more personalized learning and expanded course offerings, it stands to reason that student performance would improve. Empirical research about the academic achievement of K-12 students participating in online education is sparse. A recent analysis sponsored by the U.S. Department of Education, however, reviewed more than 1,000 studies comparing online learning with traditional learning. Most of the studies reviewed focused on postsecondary students, and researchers caution about generalizing higher education findings to K-12 education given the smaller sample size. Still researchers acknowledge that their K-12 findings resembled their higher education findings, which concluded that online classes, whether completely online or hybrid, produce stronger average student achievement than traditional classes and promote more time-on-task.¹⁷³ This is an important development since previous research found that the academic performance of high school students taking online courses was at least equivalent to that of students in face-to-face courses.¹⁷⁴

Evidence from specific state-based online education

programs suggests they can improve student achievement at a lower cost than traditional classroom instruction.¹⁷⁵ Research also shows access to online courses increases on-time graduation rates and college/workforce readiness.¹⁷⁶ For example, 2009 passing rates of Georgia Virtual School students exceeded the state average for almost all courses that require an end-of-course test. The Georgia Virtual School plans to expand on this success by implementing proficiency-based advancement rules so students can move on to more advanced work when they are ready, not arbitrary seat-time regulations.¹⁷⁷ Likewise, legislation passed in 2009 in Missouri removed seat-time requirements so school districts offering virtual classes can be funded at 90 percent of the full-time amount for online students once they complete their courses.¹⁷⁸

Likewise, Race to the Top Round 2 winner Ohio is enhancing online learning options by increasing AP course options to underserved students and abandoning rigid seat-time requirements. "Oftentimes, credit flexibility engages students in real-world learning experiences which better prepares them for college and careers," according to Ohio education officials.¹⁷⁹ Online education in Ohio empowers students to earn high school credits based on demonstrated subject area competency instead of, or in combination with, completing hours of classroom instruction. They can earn credits by completing coursework or even testing out of courses.¹⁸⁰

Conclusion

In spite of the state's current weak national standing with regard to education innovation and technology use, Nebraska could become a national leader in virtual schooling by adapting some of the most successful virtual school practices from around the country and the world to its particular circumstances. With a longstanding public-school open enrollment policy and a strong tradition of local control, Nebraska is better situated than many states to implement effective virtual schools policy. Moreover, given the state's commitment greater virtual education options, Nebraska students, parents, schools, and taxpayers could soon begin reaping its many benefits.

Appendix 1. Terminology Guide: Five Leading Sources of Confusion

Interchangeable Terms. It is important to be clear on terminology. A leading source of confusion is the interchangeable use of terms such as “virtual,” “cyber,” “online,” or “electronic” (or “e-”). These terms are essentially synonymous when they are used to describe a school; however, local preferences dictate which terms are used. Virtual schools are referred to as cyber schools in Alaska and Pennsylvania. Minnesota and Colorado use online schools instead; while Ohio prefers e-schools. A more general related term is “ICT,” information and communication technologies, which refers to the use of electronic technology in various fields such as education, business, and government, as well as daily life.¹⁸¹ Throughout this study the term virtual school is used.

Virtual, Distance, and Online Education. Another source of confusion is that virtual schools are often conflated within distance and online education.¹⁸² Virtual schools are both online and remote. They are a distinct online learning category, which in turn is a sub-set of distance education. Virtual schools offer formal instruction through an Internet Web site, in which most of the instruction occurs while teacher and learner are separate instead of together in a bricks-and-mortar classroom.¹⁸³ Students earn credits toward grade-level advancement, graduation or both.¹⁸⁴ Private vendors selected by the virtual schools typically provide the “learning management system” (LMS), the software that creates the Web site delivery “portal” where course syllabi, assignments, chat rooms, students’ homework, and teachers’ feedback is found. Virtual schools usually provide students with computers and additional instructional materials.¹⁸⁵ In contrast, online learning can be classroom-based or remote; and it can be online (Internet-based) or offline (software-based but not Internet-based). Meanwhile, distance education can consist of online courses or correspondence programs.¹⁸⁶ Students in virtual schools typically work at their own pace and meet with their fellow students and teachers online, although some virtual schools also offer opportunities for field trips or extracurricular activities. Students spend between 20 percent and 80 percent of their time on the Internet. While parents are expected to supervise students’ work, teachers spend up to one-third of their time giving students individual attention

by phone or email. Students are assessed on their course portfolios, as well as both online and offline tests.¹⁸⁷

Virtual, Home, and Charter Schools. A third source of confusion surrounding virtual schools is uniformly associating them with home schooling or charter schools. Virtual schools encompass elements of home schooling, along with independent study and tutoring. Likewise, many virtual schools are also charter schools; but not all virtual schools have this governance structure.¹⁸⁸

Naming Conventions for Schools Vary. A fourth source of confusion comes from naming conventions for virtual schools. State virtual schools often go by <state name> Virtual School, including Michigan Virtual School, Kentucky Virtual School, and Illinois Virtual School. In some states, however, the school that uses this naming convention is *not* a state virtual school, such as New Jersey Virtual School and Minnesota Virtual High School. In other cases the state virtual school uses a different naming convention, for example, the Idaho Digital Learning Academy, Colorado Online Learning, and Virtual Virginia. K12 Inc. schools typically go by the name <state name> Virtual Academy; for example the Georgia Virtual Academy, Arkansas Virtual Academy, and Arizona Virtual Academy are all K12 Inc. schools. The Indiana Virtual Academy and the Montana Virtual Academy, however, are not affiliated with K12 Inc.¹⁸⁹ Connections Academy schools are <state name> Connections Academy.¹⁹⁰ Similarly, most Insight Schools have “Insight” in their names.¹⁹¹ Meanwhile, Advanced Academics are usually named for the region or community served.¹⁹²

Virtual Charter Schools. A final source of confusion concerns virtual charter schools. Many, but not all, full-time schools are also virtual charter schools. In some states without charter schools school districts offer online schools to students statewide. In other states such as Colorado, multidistrict programs mix charter school and district programs.¹⁹³ This study uses the Center for Education Reform virtual charter school definition, which considers a charter school to be “virtual” if 50 percent or more of its curricula is provided via computers or online learning.¹⁹⁴

Appendix 2. State Virtual School Profiles

Alabama ACCESS Distance Learning. Practically all the online education activity in Alabama is provided through the state virtual school, Alabama ACCESS (Alabama Connecting Classrooms, Educators, and Students Statewide). ACCESS began in October 2005 and is supplemental program run by the Alabama Department of Education. Three regional support centers hire, train, and support the teachers. The program is available to all public high school students and is free for these schools and students. Course enrollments have grown from approximately 7,300 in 2006-07 to more than 28,000 course enrollments in 2008-09, with another 15,000 non-credit course enrollments. The program does not focus on any particular type of student or courses but offers all ranges of courses. ACCESS offers 68 unique courses with approximately 59 percent purchased from out-of-state vendors. Five remediation modules for the Alabama High School Graduation Exam are also available at no cost to all students in the state. ACCESS provides courses through Web-based instruction (WBI) and interactive videoconferencing instruction (VCI). ACCESS is unique among state virtual schools for its focus on developing technology infrastructure for receiving online and video courses at schools statewide. It therefore receives comparatively high funding. All ACCESS course are now offered in a blended learning format with both web-based and face-to-face (synchronous components). ACCESS also provides online courses to students in public school classrooms, during a set school period, not primarily at home.¹⁹⁵

Arkansas Virtual High School. Arkansas has a state virtual school, the Arkansas Virtual High School (AVHS), and one full-time, statewide charter school, the Arkansas Virtual Academy. AVHS opened in spring 2000 and had approximately 5,300 high school course enrollments in 2008-09. The Arkansas Virtual Academy serves grades K-8 across the state. It is limited by law to 500 unique students and maintains a waiting list of students who want to enroll. The Virtual Academy operates as its own school district and is thus funded through the same student full-time equivalent (FTE) formula as a physical school, \$5,905 per student, but it does not receive money from property taxes. The Arkansas Department of Education imposes class-load mandates of no more than 30 students per class and 150 students each day for both synchronous and asynchronous courses.¹⁹⁶

Colorado Online Learning. Colorado Online Learning (COL) is an independent non-profit organization serving as the supplemental online high school course provider for the state of Colorado. Founded in 1998, COL had 1,777 course enrollments for the 2008-09 school year. COL offers 70 courses. Over 85 percent of COL teachers hold advanced degrees, and they serve

as instructors in courses with student-to-teacher ratios of 17:1 or less. Online education consultant and expert John Watson considers the online reporting done by the Colorado Department of Education's Unit of Online Learning "among the best examples of reporting of online program activity in any state."¹⁹⁷

Connecticut Virtual Learning Center. The Connecticut Virtual Learning Center (CTVLC) is the state virtual school. It was launched by the Connecticut Department of Education in 2008 to offer supplemental online courses to public high schools. CTVLC had about 250 course enrollments in 2008-09, most of which were evenly split between credit recovery and AP courses. CTVLC offered 25 courses in fall 2009. The program is operated by the Connecticut Distance Learning Consortium (CTDLC), part of the Department of Higher Education, in partnership with the State Department of Education. CTVLC's annual state appropriation was cut so it now offers courses for \$295 per semester course enrollment to all of the state's public school students and \$320 for private high school and homeschool students. The Connecticut Adult Virtual High School (CTAVHS) is a statewide online program, also run by the CTDLC, that provides students enrolled in Connecticut's Adult Credit Diploma Programs the option of earning credits online. This program is funded by the federal Department of Education through state grants that pay for course enrollments. The CTAVHS has more than doubled course enrollments in both 2007-08 and 2008-09 with over 2,400 course enrollments in 2008-09.¹⁹⁸

Florida Virtual School. Florida Virtual School (FLVS) is a supplemental online program, serving students throughout Florida and around the globe. FLVS serves students in grades 6-12 and has recently partnered with Connections Academy to serve K-5 students. FLVS is the largest K-12 online learning program in the nation with more than 150,000 half-credit course completions, and more than 120,000 physical students. Operating as an independent school district designed to serve the entire state, FLVS is funded through public full-time equivalent (FTE) dollars, with full funding contingent upon student success. FLVS successfully serves a wide spectrum of students, including academically advanced, average, learning recovery, and struggling learners.¹⁹⁹

Georgia Virtual School. Georgia Virtual School (GaVS), established in May 2005, offers a wide-variety of courses to Georgia middle and high school students. Georgia Virtual School serves public, private, and homeschool students with 107 courses. From summer 2008 through spring 2009, GaVS had 4,861 unique students and 9,793 course enrollments, a 4 percent increase over the previous year. This enrollment increased almost 40 percent over the previous year. GaVS has added

several new supplemental programs including AP Practice Tests, Middle School Math Remediation Resource, and Criterion-Referenced Competency Tests (CRCT) Remediation. GAVS is unique because its students take end-of-course exams, which are tracked by the state and compared to test scores between students in online courses and state averages. State officials report that “pass rates for GAVS students are higher than the state average for GAVS students in almost all courses that require an end-of-course test.”²⁰⁰ GAVS also offers summer school courses on a tuition basis only, as well as an online test preparation for students preparing for the 8th grade math test required to enter high school. The Georgia Department of Education made GAVS its leading partner in implementing a statewide credit recovery program that is legislatively funded and free to students. Currently, 174 of Georgia’s 180 school districts are participating. Each semester, Georgia funds 20,000 seats for the credit recovery program and typically operates at 80 to 90 percent capacity. Self-paced courses are available in language arts, math, science, and social studies. About 70 to 80 percent of the students successfully recover their credits.²⁰¹

Hawaii Virtual Learning Network’s E-School. Hawaii Virtual Learning Network’s E-School is the state virtual school, which partners with the Myron B. Thompson Academy, a statewide mostly virtual charter school; the Hawaii Technology Academy statewide charter school managed by K12 Inc., which provides face-to-face and online instruction; and the Elite Element Academy, a private K-12 virtual hybrid school, partnering with the Halau Ku Mana public charter school in Honolulu. This network enrolled 2,500 middle and high school students in the 2008-09 school year. Public school students take courses at no charge during the school year. Public, private and homeschooled students may take summer courses for a fee.²⁰²

Idaho Digital Learning Academy. Idaho Digital Learning Academy (IDLA) is a statewide online program, acting as a supplemental service to Idaho public school districts since 2002. It is among the largest state virtual schools relative to the state’s population. With 98 percent of Idaho districts participating, IDLA served over 9,646 course enrollments in the 2008-09 school year, including high numbers of students who indicated the particular courses available through IDLA were not offered at their local districts. According to IDLA’s enabling legislation, “It is legislative intent that the Idaho digital learning academy operates and be recognized not as a state agency or department, but as a governmental entity whose creation has been authorized by the state, much in the manner as other single purpose districts.”²⁰³

Illinois Virtual School. The Illinois Virtual School (IVS) is operated by the Peoria County Regional Office of Education on behalf of the Illinois State Board of Education. IVS, launched in

2001, places an emphasis on reaching disadvantaged students as it was created to provide students equity of access to educational offerings regardless of where they live. IVS is a supplemental program, providing a wide variety of online courses, including core courses, electives, AP and other advanced courses, to public, private, and homeschooled students in high school and middle school throughout Illinois. From summer 2008 to spring 2009, IVS had slightly over 4,000 semester enrollments. Prior to the summer 2009 term, the program was known as the Illinois Virtual High School. The stated purpose of the IVS is “to expand the number of traditional students served, expand the grade levels to include grades 5 through 8, operate in an ‘anywhere, anytime’ mode, and serve nontraditional students (e.g., credit recovery, dual enrollment). IVS also will expand the professional development options available to Illinois teachers for certificate renewal purposes.” As of the 2008-09 school year 42 percent of IVS students were from low-income schools, and in some cases scholarships are provided to cover these students’ tuition. That school year IVS had 4,039 course registrations from 2,898 students in grades 6-12. IVS funding comes from state appropriations and fees of \$195-\$250 per course enrollment.²⁰⁴

Iowa Learning Online and Iowa Online AP Academy.

Iowa has two state virtual schools. the first, Iowa Learning Online (ILO), offers a variety of Internet, face-to-face video-based, and blended courses. It is a supplemental program of the Iowa Department of Education that started in the summer of 2004 offering courses at the 9-12 grade level for students in grades 6-12. ILO had 414 students and 693 course enrollments in 2008-09 and offers nine courses. Some of the program’s courses in science and math are offered via the statewide video-based Iowa Communication Network. Additional courses are offered by participating Iowa school districts, with ILO providing support for promotion, registration, and any associated Iowa Communications Network fees. A new initiative in 2009-10 is the development of “replacement units” for struggling students. ILO had its first full-time director in 2008 with a mandate from the Iowa Department of Education (IDOE) to integrate ILO activities into the daily activities of the IDOE. Iowa Online AP Academy (IOAPA) is Iowa’s second state virtual school. The program offers AP courses through a contract with Apex Learning, as well as professional development for teachers.²⁰⁵

Kentucky Virtual Schools. Kentucky Virtual Schools (KYVS) is the state virtual school and includes online professional development through eLearning Kentucky, Area Technology Centers, and other state agency partners. The virtual school program was created by the governor in January 2000 and serves high school students and qualified middle school students upon the recommendation of their schools and

course teachers. KYVS enrolled approximately 2,300 students in the 2008-09 school year, and offers over 86 unique courses, including 23 AP courses. KYVS also provides access to a “course shell” for a teacher for a year, along with professional development and technical support. Teachers may enroll students in online courses for work inside and outside the classroom, or use courses to bring online content into their classrooms, or both.²⁰⁶

Louisiana Virtual School. The Louisiana Virtual School (LVS) started in fall 2000 and is a supplemental program for students in grades 6-12. In the 2008-09 school year, LVS had more than 11,000 course enrollments in 56 courses. LVS has a distinguished program called the Algebra I Online Project that provides students with a certified algebra I instructor and a standards-based curriculum. LVS’ Algebra I Online Project gives mathematics teachers face-to-face and online professional development opportunities to improve in-class algebra learning activities for students and support their efforts toward mathematics certification. LVS charges no tuition, except fees assessed by university partners for dual enrollment.²⁰⁷

Maryland Virtual School. The Maryland Virtual School (MVS) is operated by the state education department. It was established in 2002 and is a supplemental online course provider for grades 6-12. MVS course credits are entered into students’ records by local public high schools or school systems. Students must have permission to take an MVS course, and as of 2009 students and their parents had no recourse if their requests to take MVS courses were denied. MVS is funded primarily through course fees that school districts pay. The average fee ranges from \$450 to \$600.²⁰⁸

Michigan Virtual School. The Michigan Virtual School (MVS) is a division of Michigan Virtual University, a private 501(c)(3) nonprofit entity funded by annual legislative appropriations, course tuition fees and grants. It works in partnership with K-12 schools to supplement and expand online learning opportunities. The MVS was created in 2000 to serve both traditional and nontraditional students. Since its inception the MVS has served over 64,000 course enrollments, including more than 16,000 in 2008-09. The MVS offers a broad range of core academic courses aligned with state standards, college level equivalent courses, remedial, enrichment and world language courses and innovative online experiences. Other services include Michigan LearnPort®, a statewide Web-based professional development system that serves over 45,000 registered Michigan educators with online courses and training. In 2006 the legislature passed a requirement that students have an “online learning experience” before graduating. At least two other states (Connecticut and West Virginia) have adopted a similar requirement. In 2008, a waiver process to the state’s pupil

accounting rules was implemented to allow eligible full-time students to take all of their coursework online.²⁰⁹

Mississippi Virtual Public School. The Mississippi Virtual Public School (MVPS) was established in 2006 as the state’s virtual school. It serves qualified students as determined by local school districts. MVPS served approximately 3,400 students with over 7,000 course enrollments in the 2008-09 school year. In addition, 170 students participated in a free Algebra Readiness program in 2008-09. MVPS also offers AP and SAT exam preparation courses. All students are required to gain approval from their local schools before they can take online courses through MVPS. Private and homeschool students must meet the same requirement and can use the local public school for which they are zoned. Limitations on course enrollments are currently being reviewed.²¹⁰

Missouri Virtual Instruction Program. The state virtual school is the Missouri Virtual Instruction Program (MoVIP), which began classes August 2007. Missouri laws make MoVIP one of the most comprehensive programs. MoVIP has full-time and part-time students across all grade levels. MoVIP is run by the Missouri Department of Education and hires outside vendors to provide the courseware and teachers. All 115 counties in Missouri have students participating. About 27 percent of MoVIP students are full-time and 73 percent of students are part-time. In the 2008-09 school year, MoVIP had 15,810 part-time and full-time course enrollments. Public, private, or homeschool students who enroll in MoVIP courses as part of their regular daily class schedules are eligible for state-funded seats during fall and spring semesters on a first-come, first-served basis. Once state-funded seats are filled, non-public students may enroll at a tuition rate of \$325 per semester. In MoVIP’s first year, public school students represented 70 percent of enrollments. In subsequent years non-public school students represented the majority of enrollments.²¹¹

New Mexico Innovative Digital Education and Learning. New Mexico’s state virtual school is IDEAL-NM (Innovative Digital Education and Learning New Mexico), which was created within the 2007 Statewide Cyber Academy Act. IDEAL-NM had approximately 1,700 course enrollments for fall 2008 and spring and summer 2009, its first full year of operation. Distance learning rules approved in 2008 set requirements for IDEAL-NM. The rule also allows public schools, including charter schools, to provide online learning courses to students in any district as long as there are written agreements in place between host and resident districts. Public school students must have a primary enrolling, or resident district. Non-public students, including home-schooled students, with no enrolling district are allowed to enroll in distance learning options without a primary school district but

must pay a per-course fee. IDEAL-NM is unusual in that it provides a statewide learning management system (LMS) through which online K-12, higher education, and state agency training courses are delivered, referred to as P-20+. School districts may use the LMS to create their own online courses, or use the content developed by IDEAL-NM to teach their own courses. Schools can also use the LMS as a collaboration tool to create branded web portals and take advantage of a shared community of resources and professional development services. In addition, a statewide eLearning Service Center supports the use of the shared LMS among all the education and training entities, including providing technical support. IDEAL-NM also provides an eLearning portal that acts as a clearinghouse for online courses and programs offered by New Mexico higher education institutions in addition to information for K-12 and state agencies.²¹²

North Carolina Virtual Public School. The North Carolina Virtual Public School (NCVPS) is one of the largest and fastest growing state virtual schools nationwide. By law, all state-funded, online offerings are consolidated under NCVPS to avoid duplication. This state virtual school opened in the summer of 2007. As of the 2008-09 school year NCVS had 15,721 high school course enrollments, which were projected to reach 30,000 course enrollments for 2009-10. NCVS is also required by law to “prioritize e-learning course offerings for students residing in rural and low-wealth county LEAs.”²¹³

North Dakota Center for Distance Education. The North Dakota Center for Distance Education (CDE) is the state’s virtual school and offers supplemental programs. It started in the fall of 1996 and serves middle and high school students. In 2008-09 the CDE had 2,417 online course enrollments. Teachers are full-time and are each responsible for up to 500 students in a course, which are spread over a calendar year due to the open enrollment policy of the CDE. Districts that used to send a few students each to CDE are now beginning to partner with local colleges on dual credit courses. They are also using outside providers to create their own online programs and alternative school curricula. Approximately 15 percent of the CDE operating budget comes from the state. Additional funds are generated by course fees (\$168 per semester course for in-state students). Local school districts must approve enrollment of local students in CDE courses, and homeschool students must pay tuition to participate in CDE courses.²¹⁴

South Carolina Virtual School. South Carolina Virtual School Program (SCVSP) was enacted in 2007. It is available to all students under age 21, including private school and homeschool students, but limits students to three online credits per year and 12 throughout high school. The Virtual School Program is a supplemental middle and high school program that

includes adult education students. It is operated by the state education agency and currently has 13,880 students at the middle and high school levels.²¹⁵

South Dakota Virtual School. The South Dakota Virtual School (SDVS) is a consortium of approved distance education providers offering supplemental courses managed from within the South Dakota Department of Education. The SDVS was created in 2006 and is the main online learning option for students in South Dakota. It acts as a clearinghouse, and providers are paid directly by school districts, which may refuse students’ requests for an online course. Providers set course fees.²¹⁶

Tennessee e4TN. Tennessee’s state virtual school is e4TN, and it became fully implemented in 2008 after a three-year pilot phase with districts across the state. The early emphasis for e4TN during the pilot phase was on the development of online courses, which resulted in twenty-seven e4TN one credit courses and two e4TN half-credit courses. e4TN served 2,063 students in grades 6-12 across all 136 districts in 2008-09, with between 2,000 and 2,500 half-credit course enrollments. The State Board of Education develops policies and guidelines for the Department of Education and LEAs (local education agencies) to operate virtual schools, which by law must receive “equitable treatment and resources as any other public school in the state.” The law limits online schools to students who were in the public education system the previous year, along with students “who are receiving hospital or homebound instruction.”²¹⁷

Texas Virtual School Network. The Texas Virtual School Network (TxVSN) began offering courses for students in grades 9-12 in January 2009. The Texas Education Agency (TEA) provides state-supported online learning opportunities to students across the state through the TxVSN using a network approach. Centralized responsibilities include administration, operations, course review, approval of required professional development for teaching online, and funding. TxVSN Provider Districts supply the courses offered through the TxVSN and instruction. TxVSN Receiving Districts (student’s home district) approve their students’ TxVSN course requests, provide ongoing support to local students enrolled in TxVSN courses, and award credits and diplomas. The TEA is continuing to administer a full-time virtual program for grades 3-9, called the Electronic Course Program (eCP), which began operating in 2006 as a pilot program. In 2009, legislation authorized it to be incorporated into the same statutory provision establishing the TxVSN.²¹⁸

Utah Electronic High School. Utah’s state virtual school is the Utah Electronic High School (EHS). It also has two statewide online charter schools. The EHS is primarily a supplemental program working with local school districts, but it

grants diplomas to a students who are homeschooled exclusively, those who have dropped out of school and their class has graduated, and students with district referrals. EHS started in 1994 as a statewide virtual school located at the Utah State Office of Education (USOE). Between July 1, 2008, and June 30, 2009, EHS granted 15,663 quarter credits to 7,216 individual students, roughly the equivalent of 7,530 individual semester course completions. Enrollment has increased 4 percent annually in terms of course enrollments and 6 percent annually in terms of unique students. The Utah Virtual Academy is the largest of Utah's online charter school programs, serving over 500 K-12 students. The Open High School of Utah, an open source online charter school, was started by professors at Utah State University and began enrolling 9th grade students statewide in the fall of 2009.²¹⁹

Virtual Virginia. Virtual Virginia is the combination of two former distance education programs, the Virginia Satellite Education Network and the Virginia Virtual Advanced Placement School. During the 2006-07 school year the two programs merged to form Virtual Virginia. In this merger, instruction moved to full online teaching and learning through a unified course management system. Initially, distance learning programs were designed to meet the needs of rural and underserved students by providing access to more advanced coursework. The current course catalog reflects their initial mission with 23 AP courses, three pre-AP courses, and 16 world language courses not typically found in local schools' language offerings. Virtual Virginia's for-credit course enrollments reached 5,236 in the 2008-09 school year plus an additional 6,204 students enrolled in non-credit online tutorials. These tutorials are offered throughout the year free of charge and cover algebra I and reading to help students pass language and math standards exams. Virtual Virginia funding is largely based on state appropriations, with some funding from course registration fees charged to out-of-state and non-public school students. Honors courses, electives, and language courses are free to Virginia public school students. A per student, per course fee ranging from \$75 to \$300 is charged to school districts for AP courses based upon the local composite index. Public school students who qualify as Early College Scholars may take AP courses free of charge. More than 60 percent of Virtual Virginia's enrollment is in its AP courses.²²⁰

West Virginia Virtual School. The West Virginia Virtual School (WVVS) is the state's virtual school serving students in grades 6-12. Created by statute in 2000, WVVS began enrolling students in the spring of 2002. It is housed in the West Virginia Department of Education and is governed by statute and State Board Policy. WVVS offers approximately 161 courses supplied by third-party providers, except Spanish courses. Online courses

are paid for by the state budget on a first-come, first-served basis. Otherwise students may take courses if the course fee is paid by their local school or, in some cases, by their parents. Fees range from \$150 to \$850 per credit depending on the course provider. WVVS had 3,172 course enrollments in 2008-09 with 1,355 students. In summer 2008, State Board Policy was amended to recommend that students complete an online learning experience as part of graduation requirements, beginning with students entering 9th grade in the 2008-09 school year.²²¹

Wisconsin Virtual School. The Wisconsin Virtual School (WVS) is a supplemental state virtual school created through a partnership between the Wisconsin Department of Public Instruction (DPI) and Cooperative Educational Service Agency (CESA). WVS has been operating since 2000 and offers more than 180 online courses for students in grades 6-12 with course enrollments of nearly 1,800 in 2008-09. The DPI categorizes "online programs" as supplemental providers and virtual charter schools as those that directly enroll students. The Department of Public Instruction established a set of criteria for quality online courses for supplemental programs in 2008-09. For each student, the teacher is responsible for: 1) improving learning through planned instructions; 2) diagnosing learning needs; 3) prescribing content delivery through class activities; 4) assessing learning; 5) reporting outcomes to administrators, parents and guardians; and 6) evaluating the effects of instruction. It requires class sizes of 25 or less. Teachers must respond to all inquiries from students and parents within 48 hours.²²²

1 John Watson, Keeping Pace with K-12 Online Learning: A Review of State-level Policy and Practice, Evergreen Education Group, November 2009, pp. 8-11, <http://www.kpk12.com/>. For more resources on online learning, see the International Association for K-12 Online Learning (iNACOL) Reports and Publications Web site, <http://www.inacol.org/research/reports.php>.

2 Gregg Vanourek, "A Primer on Virtual Charter Schools: Mapping the Electronic Frontier," Issue Brief No. 10, National Association of Charter School Authorizers, August 2006, p. 4, http://www.qualitycharters.org/images/stories/publications/Issue_Briefs/IssueBriefNo10_Role_s_Virtual_Charters.pdf.

3 For recent developments in online learning, see John Watson, Keeping Pace with K-12 Online Learning: A Review of State-level Policy and Practice, Evergreen Education Group, November 2009, <http://www.kpk12.com/download.html>.

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